CLAIM AMENDMENTS

1. (previously presented) A method of multiplexing a plurality of channels in a multimedia system, the method comprises:

receiving a plurality of channels from a multimedia source;

receiving a plurality of channel selection commands by:

receiving, from a plurality of clients, a plurality of channel selection requests; and

processing the plurality of channel selection requests to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes at least one of: last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list;

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection commands to produce selected channels; and

encoding each of the selected channels based on a data conveyance protocol of the multimedia system to produce a set of encoded channel data.

2. (cancelled)

3. (currently amended) The method of claim 1~~2~~, wherein the processing the plurality of channel selection requests further comprises at least one of:

interpreting at least one channel selection request to identify at least one client of the plurality of clients and at least one of the channel selection requests of the plurality of channel selection requests;

authenticating a client of the plurality of clients that provides a specific channel selection request; and

authenticating the specific channel selection request.

4. (original) The method of claim 1, wherein the receiving the plurality of channel selection commands further comprises:

monitoring packets on a shared bus;

identifying at least one of the packets to contain at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the at least one packet to recapture the at least a portion of the one of the plurality of channel selection commands.

5. (original) The method of claim 1, wherein the receiving the plurality of channel selection commands further comprises:

monitoring a shared bus at specific time intervals;

identifying a data frame at one of the specific time intervals that contains at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands.

6. (original) The method of claim 1 further comprises:

receiving a second plurality of channels from a second multimedia source.

7. (original) The method of claim 6, wherein the selecting a channel further comprises:

selecting a channel from either the plurality of channels or the second plurality of channels per each of the channel selection commands, wherein each of the channel selection commands includes identity of the multimedia source or the second multimedia source and identity of the channel.

8. (original) The method of claim 1, wherein the receiving the plurality of channel selection commands further comprises at least one of:

decrypting each of the plurality of channel selection commands; and

decompressing each of the plurality of channel selection commands.

9. (original) The method of claim 1, wherein each of the plurality of channels is compressed, wherein the selecting a channel further comprises:

selecting a group of compressed channels of the plurality of channels per at least one of the plurality of channel selection commands, wherein the group of compressed channels includes the channel.

10. (original) The method of claim 9, wherein the encoding further comprises:

encoding the group of compressed channels into packets or frames based on the data conveyance protocol.

11. (original) The method of claim 1, wherein the encoding further comprises:

packetizing data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

12. (original) The method of claim 11 further comprises:

conveying the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

13. (original) The method of claim 1, wherein the encoding further comprises:

framing data of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

14. (original) The method of claim 13 further comprises:

conveying the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

15. (original) The method of claim 1, wherein the encoding further comprises at least one of:

multilevel encoding data of each of the selected channels;

non return to zero (NRZ) encoding the data of each of the selected channels;

Manchester encoding the data of each of the selected channels;

block encoding the data of each of the selected channels; and

nB/mB encoding the data of each of the selected channels, where n < m.

16. (original) The method of claim 1 further comprises:

data compressing the selected channels prior to encoding.

17. (original) The method of claim 1 further comprises:

encrypting the selected channels prior to encoding.

18. (original) The method of claim 1 further comprises:

receiving a single channel from a multimedia source;

selecting the single channel based on at least one of the plurality of channel selection commands to produce a selected single channel; and

encoding the selecting single channel based on the data conveyance protocol.

19. (original) The method of claim 18, wherein the receiving the single channel further comprises at least one of:

receiving the single channel of audio data and video data from an output of a video cassette recorder;

receiving the single channel of audio data and video data from an output of a DVD player;

receiving the single channel of audio data and video data from an output of a camcorder;

receiving the single channel of audio data from an output of a compact disk player;

receiving the single channel of audio data from an output of a cassette player;

receiving the single channel of at least one of data and audio data from a telephone connection; and

receiving the single channel of at least one of data, audio data, and video data from a modem.

20. (original) The method of claim 1, wherein the receiving the plurality of channels further comprises at least one of:

receiving audio and video data for each of the plurality of channels from a satellite connection;

receiving audio and video data for each of the plurality of channels from a set-top box;

receiving audio and video data for each of the plurality of channels from a cable connection;

receiving audio and video data for each of the plurality of channels from a high-definition television receiver; and

receiving audio and video data for each of the plurality of channels from an antenna.

21. (previously presented) A method of multiplexing channels in a multimedia system, the method comprises:

receiving a channel from each of a plurality of sources to produce a plurality of channels;

receiving a plurality of channel selection commands;

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection command to produce selected channels; and

encoding each of the selected channels based on a data conveyance protocol of the multimedia system to produce a set of encoded channel data by packetizing data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes at least one of: identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

22. (original) The method of claim 21, wherein the receiving the channel selection commands further comprises:

receiving, from a plurality of clients, a plurality of channel selection requests; and

processing the plurality of channel selection requests to produce the plurality of channel selection commands,

wherein the each of the plurality of channel selection commands includes at least one of: specific channel selection command, last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list.

23. (original) The method of claim 22, wherein the processing the plurality of channel selection requests further comprises at least one of:

interpreting at least one channel selection request to identify at least one client of the plurality of clients and at least one of the channel selection requests of the plurality of channel selection requests;

authenticating a client of the plurality of clients that provides a specific channel selection request; and

authenticating the specific channel selection request.

24. (original) The method of claim 21, wherein the receiving the plurality of channel selection commands further comprises:

monitoring packets on a shared bus;

identifying at least one of the packets to contain at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the at least one packet to recapture the at least a portion of the one of the plurality of channel selection commands.

25. (original) The method of claim 21, wherein the receiving the plurality of channel selection commands further comprises:

monitoring a shared bus at specific time intervals;

identifying a data frame at one of the specific time intervals that contains at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the at least one packet to recapture the at least a portion of the one of the plurality of channel selection commands.

26. (cancelled)

27. (cancelled)

28. (original) The method of claim 21, wherein the receiving the plurality of channel selection commands further comprises at least one of:

decrypting each of the plurality of channel selection commands; and

decompressing each of the plurality of channel selection commands.

29. (cancelled)

30. (previously presented) The method of claim 21 further comprises:

conveying the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

31. (original) The method of claim 21, wherein the encoding further comprises:

framing data of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

32. (original) The method of claim 31 further comprises:

conveying the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

33. (original) The method of claim 31, wherein the encoding further comprises at least one of:

multilevel encoding data of each of the selected channels;

non return to zero (NRZ) encoding the data of each of the selected channels;

Manchester encoding the data of each of the selected channels;

block encoding the data of each of the selected channels; and

nB/mB encoding the data of each of the selected channels, where n < m.

34. (original) The method of claim 21 further comprises:

data compressing the selected channels prior to encoding.

35. (original) The method of claim 21 further comprises:

encrypting the selected channels prior to encoding.

36. (currently amended) A tuning module for using in multimedia system, the tuning module comprises:

plurality of selectors, wherein each of the plurality of selectors is operably coupled to receive a plurality of channels, wherein each of the plurality of selectors outputs a channel of the plurality of channels based on a respective one of a plurality of channel selection commands to produce selected channels;

encoding module operably coupled to encode the selected channels based on a data conveyance protocol of the multimedia system to produce encoded channel data; and

bus interface module operably coupled to transmit the encoded channel data in accordance with the data conveyance protocol, the bus interface module including a receiving module that is operably coupled to monitor packets on a shared bus and to identify at least one of the packets ~~to~~that contains at least a portion of one of the plurality of channel selection commands to produce an identified packet.

37. (cancelled)

38. (previously presented) The tuning module of claim 38 further comprises:

decoding module operably coupled to decode the identified packet, based on the data conveyance protocol, to recapture at least a portion of the one of the plurality of channel selection commands.

39. (original) The tuning module of claim 36, wherein the bus interface module further comprises:

monitoring module operably coupled to monitor a shared bus at specific time intervals for a data frame that contains at least a portion of one of the plurality of channel selection commands.

40. (original) The tuning module of claim 39 further comprises:

decoding module operably coupled to decode, based on the data conveyance protocol, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands.

41. (original) The tuning module of claim 36, wherein the bus interface module further comprises at least one of:

decrypting module for decrypting each of the plurality of channel selection commands; and

decompressing module for decompressing each of the plurality of channel selection commands.

42. (original) The tuning module of claim 36 further comprises:

second plurality of selectors, wherein each of the second plurality of selectors is operably coupled to receive a second plurality of channels, wherein each of the second

plurality of selectors outputs a channel of the second plurality of channels based on a respective one of the plurality of channel selection commands to produce second selected channels.

43. (original) The tuning module of claim 36, wherein the encoding module further comprises:

packetizing module for packetizing data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes at least one of identity of the selected channel, type of data of the selected channel, identity of a multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

44. (original) The tuning module of claim 36, wherein the encoding module further comprises:

framing module for framing data of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

45. (original) The tuning module of claim 36, wherein the encoding module further comprises at least one of:

multilevel encoding module for multilevel encoding of data of each of the selected channels;

non return to zero (NRZ) encoding module for NRZ encoding of the data of each of the selected channels;

Manchester encoding module for Manchester encoding of the data of each of the selected channels;

block encoding module for block encoding of the data of each of the selected channels; and

nB/mB encoding module for nB/mB encoding of the data of each of the selected channels, where n < m.

46. (original) The tuning module of claim 36 further comprises:

data compressing module operably coupled to the plurality of selectors and the encoding module, wherein the data compressing module receives the selected channels from the plurality of selectors, compresses the selected channels to produce compressed channels, and provides the compressed channels to the encoding module.

47. (original) The tuning module of claim 36 further comprises:

encryption module operably coupled to the plurality of selectors and the encoding module, wherein the encryption module receives the selected channels from the plurality of selectors, encrypts the selected channels to produce

encrypted channels, and provides the encrypted channels to the encoding module.

48. (original) The tuning module of claim 36 further comprises:

bus controller operably coupled to the bus interface module, wherein the bus controller controls receiving of the plurality of channel selection commands and controls the transmitting of the encoded channel data.

49. (previously presented) An apparatus for multiplexing a plurality of channels in a multimedia system, the apparatus comprises:

processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receive a plurality of channels from a multimedia source;

receive a plurality of channel selection commands by:

monitoring a shared bus at specific time intervals; and

identifying a data frame at one of the specific time intervals that contains at least a portion of one of the plurality of channel selection commands;

select a channel of the plurality of channels per channel selection command of the plurality of channel selection command to produce selected channels; and

encode each of the selected channels based on a data conveyance protocol of the multimedia system to produce a set of encoded channel data.

50. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that

cause the processing module to receive the channel selection commands by:

receiving, from a plurality of clients, a plurality of channel selection requests; and

processing the plurality of channel selection requests to produce the plurality of channel selection commands, wherein the each of the plurality of channel selection commands includes at least one of: specific channel selection command, last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list.

51. (original) The apparatus of claim 50, wherein the memory further comprises operational instructions that cause the processing module to process the plurality of channel selection requests by at least one of:

interpreting at least one channel selection request to identify at least one client of the plurality of clients and at least one of the channel selection requests of the plurality of channel selection requests;

authenticating a client of the plurality of clients that provides a specific channel selection request; and

authenticating the specific channel selection request.

52. (cancelled)

53. (previously presented) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to receive the plurality of channel selection commands further by:

decoding, based on the data conveyance protocol, the data frame to recapture the at least a portion of the one of the plurality of channel selection commands.

54. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to:

receive a second plurality of channels from a second multimedia source.

55. (original) The apparatus of claim 54, wherein the memory further comprises operational instructions that cause the processing module to select a channel by:

selecting a channel from either the plurality of channels or the second plurality of channels per each of the channel selection commands, wherein each of the channel selection commands includes identity of the multimedia source or the second multimedia source and identity of the channel.

56. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to receive the plurality of channel selection commands by at least one of:

decrypting each of the plurality of channel selection commands; and

decompressing each of the plurality of channel selection commands.

57. (original) The apparatus of claim 49, wherein each of the plurality of channels is compressed, and wherein the memory further comprises operational instructions that cause the processing module to select a channel by:

selecting a group of compressed channels of the plurality of channels per at least one of the plurality of channel selection commands, wherein the group of compressed channels includes the channel.

58. (original) The apparatus of claim 57, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by:

encoding the group of compressed channels into packets or frames based on the data conveyance protocol.

59. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by:

packetizing data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes at least one of

identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

60. (original) The apparatus of claim 59, wherein the memory further comprises operational instructions that cause the processing module to:

convey the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

61. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by:

framing data of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

62. (original) The apparatus of claim 61, wherein the memory further comprises operational instructions that cause the processing module to:

convey the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

63. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by at least one of:

multilevel encoding data of each of the selected channels;

non return to zero (NRZ) encoding the data of each of the selected channels;

Manchester encoding the data of each of the selected channels;

block encoding the data of each of the selected channels; and

nB/mB encoding the data of each of the selected channels, where $n < m$.

64. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to:

compress the selected channels prior to encoding.

65. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to:

encrypt the selected channels prior to encoding.

66. (original) The apparatus of claim 49, wherein the memory further comprises operational instructions that cause the processing module to:

receive a single channel from a multimedia source;

select the single channel based on at least one of the plurality of channel selection commands to produce a selected single channel; and

encode the selecting single channel based on the data conveyance protocol.

67. (currently amended) An apparatus for multiplexing channels in a multimedia system, the apparatus comprises:

processing module; and

memory operably coupled to the processing module, wherein the memory includes operational instructions that cause the processing module to:

receiving a channel from each of a plurality of sources to produce a plurality of channels;

receiving, from a plurality of clients, a plurality of channel selection requests; and

processing the plurality of channel selection requests to determine whether the request can be supported, and, if so, producing a plurality of channel selection commands, ~~receiving a plurality of channel selection commands,~~ wherein each of the plurality of channel selection commands includes an identity of one of the plurality of sources, and an identity of the channel;

selecting a channel of the plurality of channels per channel selection command of the plurality of channel selection command to produce selected channels; and

encoding each of the selected channels based on a data conveyance protocol of the multimedia system to produce a set of encoded channel data.

68. (currently amended) The apparatus of claim 67, ~~wherein the memory further comprises operational instructions that cause the processing module to receive the channel selection commands by:~~

~~receiving, from a plurality of clients, a plurality of channel selection requests; and~~

~~processing the plurality of channel selection requests to produce the plurality of channel selection commands,~~ wherein the each of the plurality of channel selection commands includes at least one of: specific channel selection command, last channel selection command, next channel selection command, previous channel selection command, favorite channel selection command, and select channel from user define list.

69. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to process the plurality of channel selection requests by at least one of:

interpreting at least one channel selection request to identify at least one client of the plurality of clients and at least one of the channel selection requests of the plurality of channel selection requests;

authenticating a client of the plurality of clients that provides a specific channel selection request; and

authenticating the specific channel selection request.

70. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to receive the plurality of channel selection commands by:

monitoring packets on a shared bus;

identifying at least one of the packets to contain at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the at least one packet to recapture the at least a portion of the one of the plurality of channel selection commands.

71. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to receive the plurality of channel selection commands by:

monitoring a shared bus at specific time intervals;

identifying a data frame at one of the specific time intervals that contains at least a portion of one of the plurality of channel selection commands; and

decoding, based on the data conveyance protocol, the at least one packet to recapture the at least a portion of the one of the plurality of channel selection commands.

72. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to receive the plurality of channel selection commands by at least one of:

decrypting each of the plurality of channel selection commands; and

decompressing each of the plurality of channel selection commands.

73. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by:

packetizing data of each of the selected channels into a packet that includes a header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and packet sequence number.

74. (original) The apparatus of claim 73, wherein the memory further comprises operational instructions that cause the processing module to:

convey the packet using at least one of: Carrier Sense Multiple Access (CSMA), CSMA with collision avoidance, and CSMA with collision detection.

75. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to encoding each of the selected channels by:

framing data of each of the selected channels into a frame that includes header section and a data section, wherein the header section includes at least one of identity the selected channel, type of data of the selected channel, identity of the multimedia source, encryption enable/disable, type of encryption, compression enable/disable, type of compression, and frame number.

76. (original) The apparatus of claim 75, wherein the memory further comprises operational instructions that cause the processing module to:

convey the frame in accordance with at least one of: a time division multiplexing data conveyance protocol, and frequency division multiplexing data conveyance protocol.

77. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to encode each of the selected channels by at least one of:

multilevel encoding data of each of the selected channels;

non return to zero (NRZ) encoding the data of each of the selected channels;

Manchester encoding the data of each of the selected channels;

block encoding the data of each of the selected channels; and

nB/mB encoding the data of each of the selected channels, where n < m.

78. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to:

compress the selected channels prior to encoding.

79. (original) The apparatus of claim 67, wherein the memory further comprises operational instructions that cause the processing module to:

encrypt the selected channels prior to encoding.